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Successful Implantation and Reconstruction of Chest Wall Invasion of Invasive Ductal Carcinoma of Breast

Fazli Yanik[1]
Yekta Altemur Karamustafaoglu[1]
Yener Yoruk[1]

[1]Trakya University School of Medicine, Thoracic Surgery Department, Edirne,Turkey.

Abstarct

Breast cancer(BC) is described as a malignant development that occurs in the structure of the mammary gland. BC is the most common cancer in women. It is the major causes of death from cancer. We present a 62-years-old femalepatient had left radical mastectomy + axillary lymphnode curettage with a diagnosis of stage IIIA invasive ductal breast cancer 10 years ago. After adjuvant oncological treatment recurrence was detected in the chest wall. She successful operated with hybrid reconstruction using both synthetic and autologous grafts.

KeyWords:

Breast Cancer, Chestwall, Reconstruction

Introduction

Breast cancer (BC) is described as a malignant development that occurs in the structure of the mammary gland. BC is the most common cancer in women. It is the major causes of death from cancer in the country, particularly in the western countries. BC is one of the few malignant tumors that can be screened and diagnosed as subclinical. As in most cancers, there is a multidisciplinary approach to BC that deals with many different branches of diagnosis and treatment [1,2].

Case Presentation

A 62-years-old female patient had left radical mastectomy + axillary lymph node curettage with a diagnosis of stage IIIA invasive ductal breast cancer 10 years ago. There was no significant finding in physical examination, laboratory findings, family history, pas medical history, medications. Adjuvant chemotherapy and radiotherapy were performed and followed oncologically. She applied to our clinic with symptoms of pain on the left mastectomy incision and chest wall. Pathological fractures in the left 5,6,7 ribs, skin defect, tumoral thickening in the chest wall were detected in thorax CT images (Figure 1A,B). PET /CT images showed high FDG uptake(SUVmax: 6.4) only at the same location (Figure 1 C,D). The patient was discussed at the multidisciplinary council and the operation decision was taken considering local recurrence. In the operation; left 5,6, 7. The ribs and hest wall were resected by keeping the 4 cm surgical margin(Figure 2A). The chest wall defect was reconstructed with two titanium bars and a prolene mesh (Figüre 2B). The skin defect was reconstructed with latissimusdorsi musculocutaneous flap (Figure 2C,D). The histopathologic examination result was metastasis of invasive ductal carsinoma with negative surgical margins. The patient is followed without any problems during the first post operative year. Control chest CT and PET / CT were used in follow-up, pathological findings were not detected.

Discussion

The improvement in chest wall stability explains the postoperative mortality rates being no greater than 2% [1-3]. There are two ways to close defects: prostheti corautologous tissue (pedicled muscular or musculocutaneous flaps) with excellent circulation support. There commended reconstruction methods are the closure of defects by synthetic materials polytetrafluoroethylene mesh, polypropylene mesh, polyester mesh, composite prosthesis- methyl methacrylate bone cement, etc....), titanium osteosynthesis materials, and autologous materials (bone grafts, muscular transpositions, etc....) [3]. In our case we decided that the prosthetic titanium bar can stabilize the chest wall due to the size of the defect. Also for skin defect autologous musculo cutaneous flap were used..Thus providing a hybrid reconstruction using both synthetic and autologous grafts.

The rate of locally recurrent breast cancer after apparently complete excision of stage I

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*Corresponding author:

Fazli YANIK
Trakya Tip Fakultesi
Gogus Cerrahisi AD
22030/ Edirne/TURKEY
Tel/Fax: +90 284 2355936
E-mail: fazliyanik@hotmail.com

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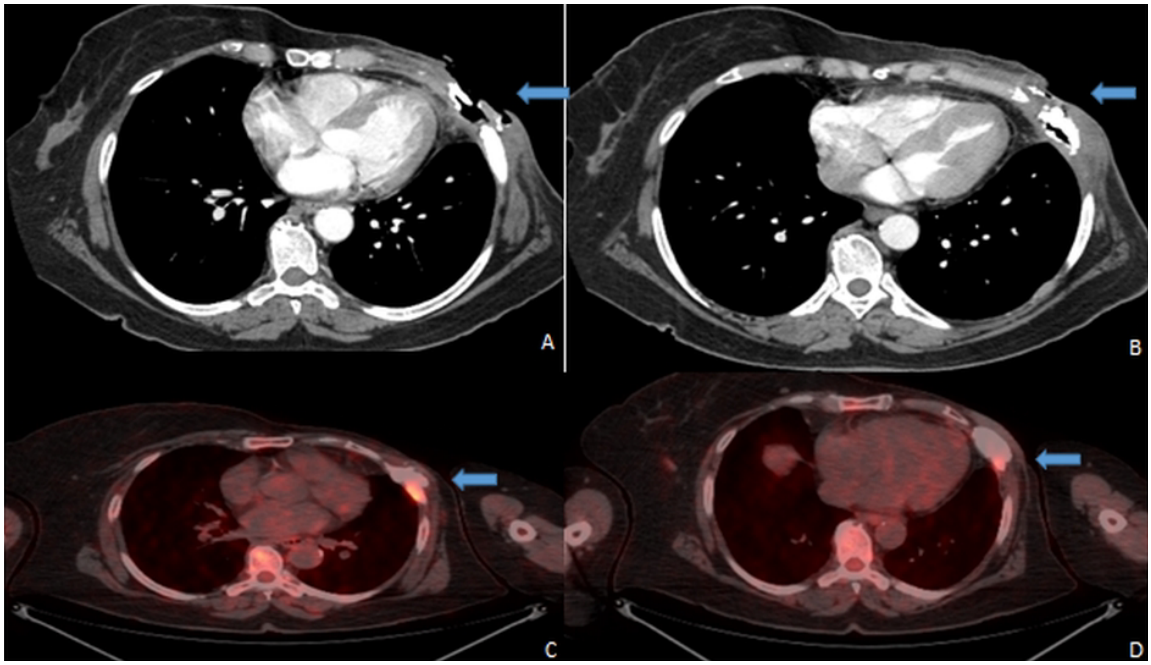

Figure 1:

A,B: Chest wall invasion of invasive ductal carcinoma , thorax-CT images, marked with blue arrow

C,D: Chest wall invasion of invasive ductal carcinoma , PET/ CT images.(SUVmax:6,4), marked with blue arrow

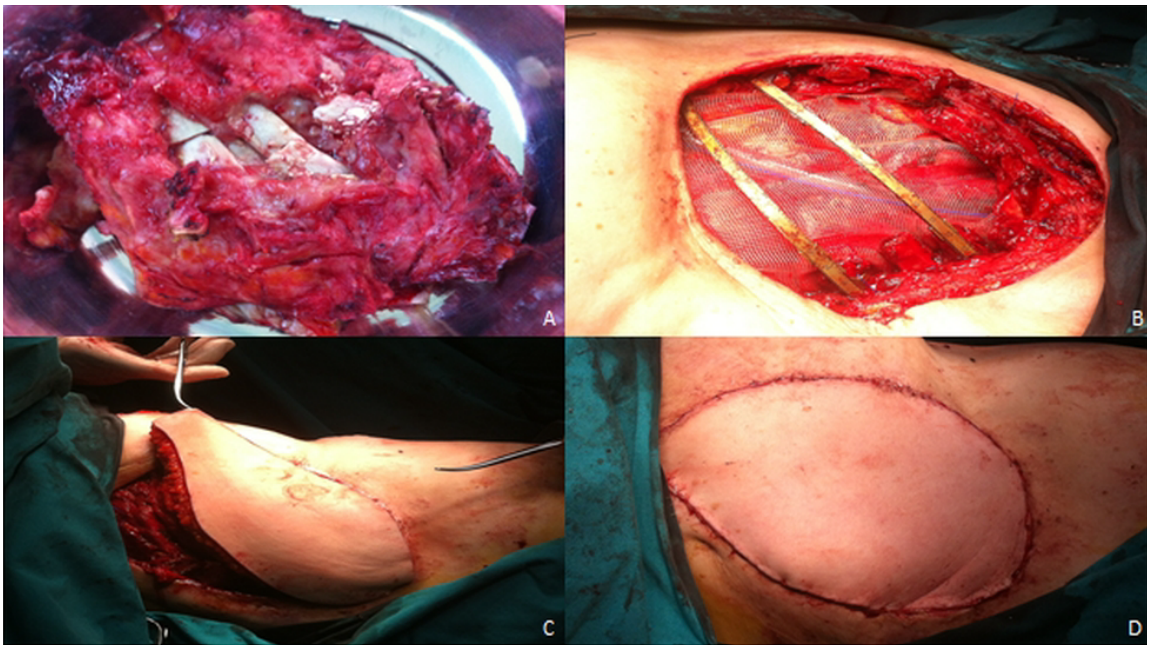

Figure 2:

A: Macroscopic view of tumor after resection.

B: The intraoperative view of reconstruction with titanium bar andprolene mesh.

C,D: The intraoperative view of reconstruction with latissimus dorsi musculo cutaneous flap.

or II disease is thought to be between 4% and 20% [4]. Clear surgical margins important for local control in chestwall invasion of BC. 3-20% chest wall recurrence may reveal after mastectomy. It depends on number of axillary nodes involved. 30% of this tumors have distant metastasis at time of chest wall involve mentdiagnosis [5]. However, a detailed analysis of isolated chest wall recurrence ssuggested that local recurrence was associated with a median survival of 5.6 years and a 10-year survival of 30% [6]. In our case surgical margin was clear and there was no axillary node involvement and had no distant metastasis.

It is often thought that local breast cancer recurrence always indicates the presence of distant metastases [7].

Radiotherapy is indicated for patients under going mastectomy

as surgical management for breast cancer treatment when clinical or pathologic tumor and nodal features predict risk of local/regional recurrence. Such features include: tumor size 5 cm, inadequate surgical margins; skin, facial, or skeletal muscle invasion; dermally lymphatic invasion; poorly differentiated tumor histology; four or more lymph nodes positive; gross extra capsulartum or nodal extension into soft tissues; and matted lymph nodes or enlarged lymph nodes> 2 cm. Patients who were treated with irradiation after mastectomy can develop local/regional recurrences despite such adjuvant therapy [8]. But the best use of radiotherapy seems to be adjuvant post-operative treatment after R1 chest wall resection, a situation in which overall survival and disease free survival rates are then similar to those seen after R0 chest wallresection [9]. The most important risk factor for failure of surgical resection in local recurrences is an insufficient safety margin. Confining there section of the soft tissues is associated with rerecurrence rates of upto 62% [10].

Conclusion

In conclusion; invasive ductal breast cancer can be arised by local recurrence even after many years. Recurrences developing in the chest wall can be successfully treated with synthetic and autologous grafts. Surgery should be prefered against other, less-aggressive treatments such as radiation therapy in appropriate patients

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